

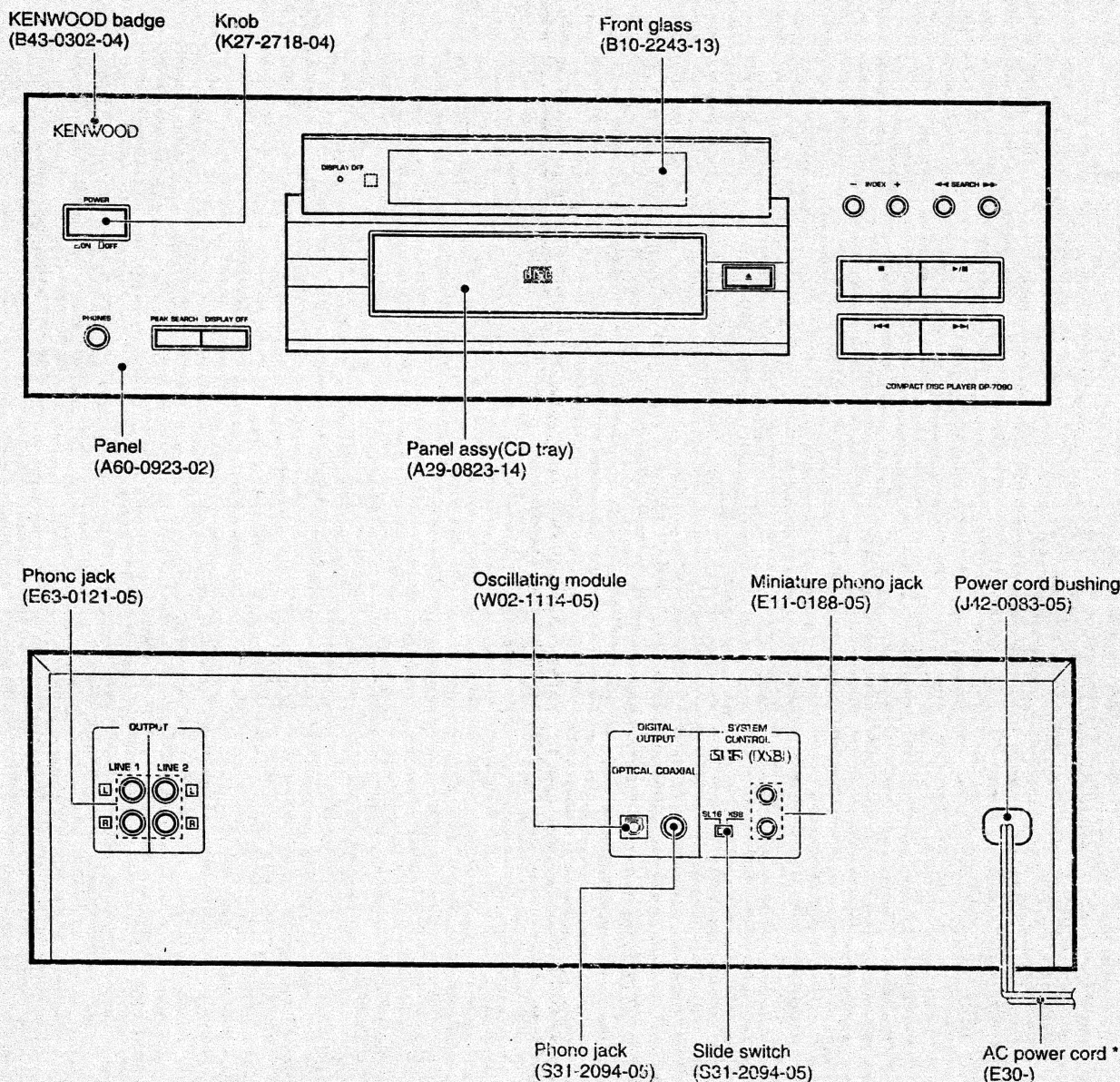
COMPACT DISC PLAYER

DP-7090

SERVICE MANUAL

KENWOOD

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* Refer to parts list on page 23.



In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR1040. 10, Chapter 1, Subchapter J.

DANGER : Laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.




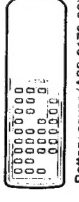

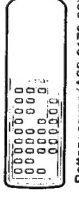
DP-7090

CONTENTS / ACCESSORIES / CAUTIONS

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Accessories

Audio cord.....(1) (E30-0505-05)		System control cord.....(1) (E30-2733-05)		AC plug adapter.....(1) (E03-0115-05) : M type only	
Remote control unit.....(1) (A70-1071-05 : RC-P0707)		Batteries (R6/AA).....(2)		Accessories only for regions where use is necessary.	
Battery cover (A09-0170-08)					

Cautions

Note related to transportation and movement

- Before transporting or moving this unit, carry out the following operations.
1. Turn the power ON but do not load a disc.
 2. Wait a few seconds and verify that the display shown appears.
 3. Turn the power OFF.



Beware of condensation

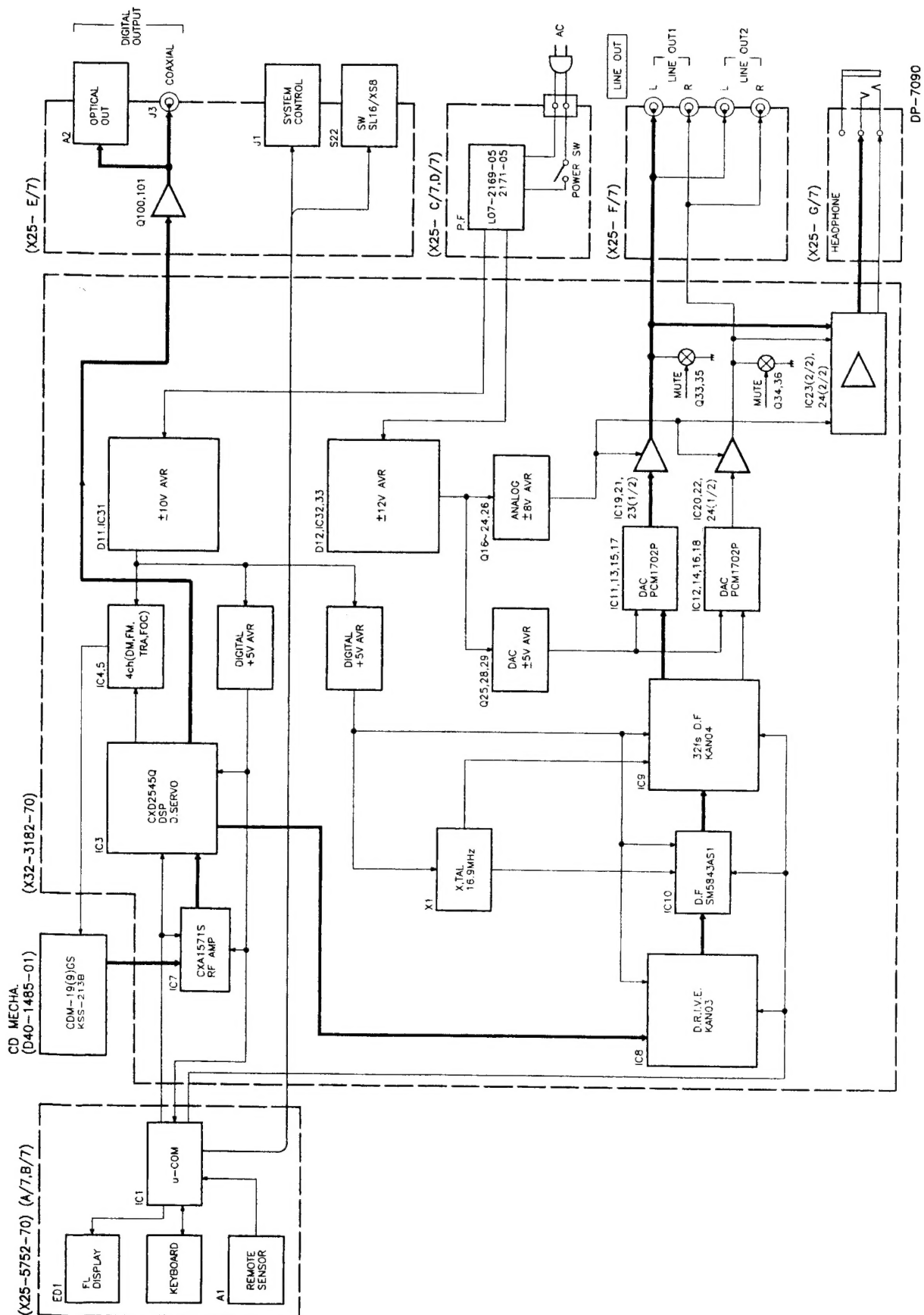
When the unit is brought from a cold place to a warm place, condensation may occur on the surface of the unit. If condensation occurs, correct operation may not be possible. If the unit is not operated correctly, this is not a malfunction. However, the unit should be dried. (To do this, turn the POWER switch ON and leave the unit for several hours.)

Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, such as from a cold room to a room with a heater.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

DP-7090

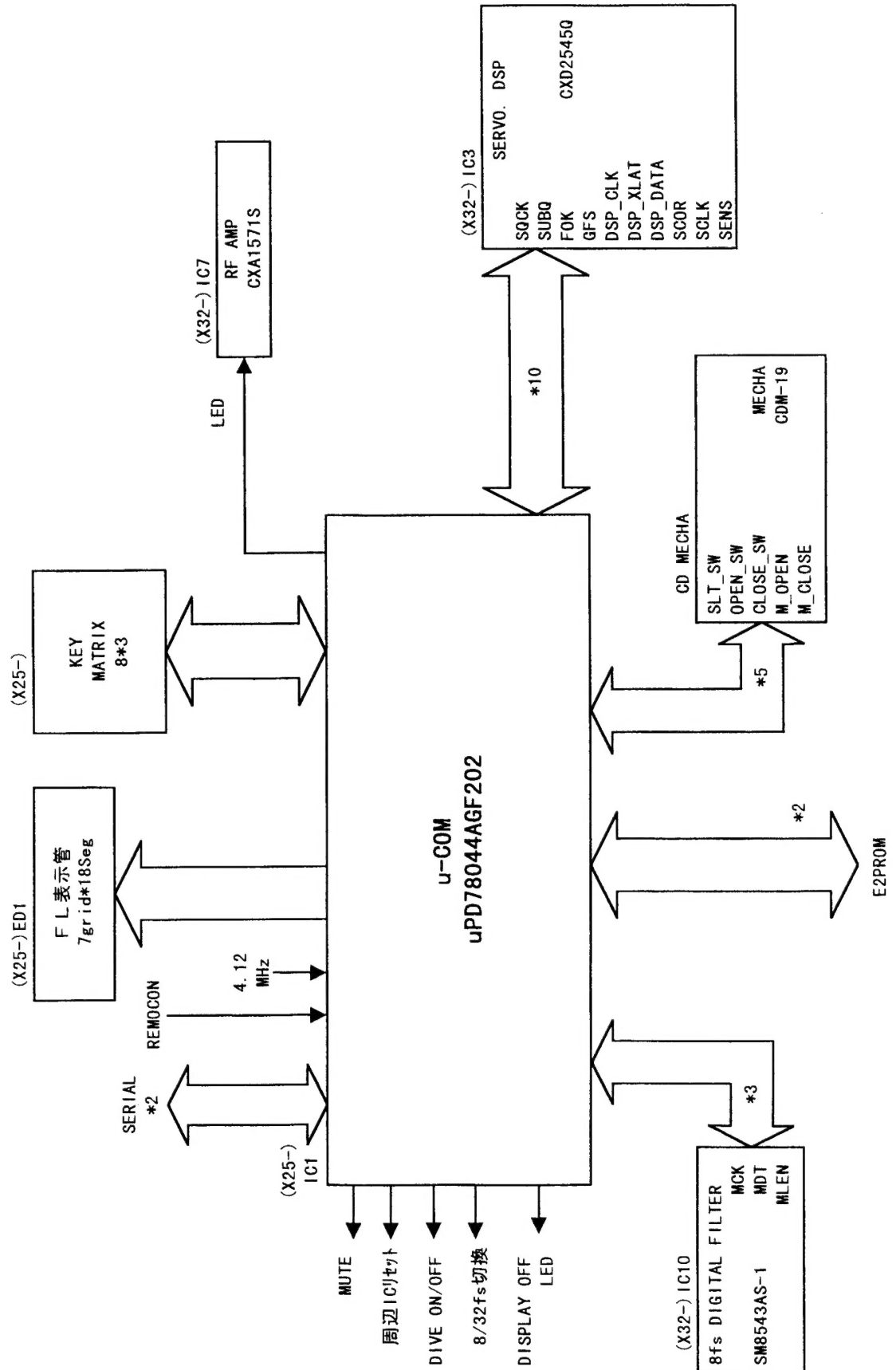
BLOCK DIAGRAM



DP-7090

CIRCUIT DESCRIPTION

1. Microprocessor uPD78044AGF202(X25- IC1)



CIRCUIT DESCRIPTION

CIRCUIT DESCRIPTION

2. Pin description

No.	Name	I/O	Description
1	GRID_1	O	FL grid signal output. Grid 1
2	GRID_3	O	FL grid signal output. Grid 3
3	GRID_4	O	FL grid signal output. Grid 4
4	GRID_7	O	FL grid signal output. Grid 7
5	GRID_6	O	FL grid signal output. Grid 6
6	GRID_5	O	FL grid signal output. Grid 5
7	GRID_2	O	FL grid signal output. Grid 2
8	Vdd		Power supply.
9	SOCK	O	Q data reading clock output to CXD2545Q.
10		O	No used.
11	SUBQ	I	Q data / RF jitter value of CXD 2545Q is read.
12	DIG_SEL1	O	Digital input selector control of TC9245.
13	DIG_SEL2	O	Digital input selector control of TC9245.
14	EMPHASYS	I	Emphasys on / off detection of TC9245.
15	FS_DET2	I	Sampling frequency detection of TC9245.
16	FS_DET1	I	Sampling frequency detection of TC9245.
		DIG-SEL1	H L L L L H
		DIG-SEL2	H L L L L H
		Outside input	OFF 1 2 3
		FS-DET1	L L L L L H
		FS-DET2	L L L L L H
		Sampling Fs	44.1 48 32
17	RESET		Reset for u - COM
18	OPEN_SW	I	Tray open switch signal input.
19	CLOSE_SW	I	Tray close switch signal input.
20	AVss		No used (GND)
21	M_OPEN	O	Tray open motor drive signal output.
22	M_CLOSE	O	Tray close motor drive signal output.
23	SLT_SW	I	Start limit switch signal input from pick up
24	LDC	O	Laser output
25	CD_DI	O	CD / outside digital input switched
26	MCK	O	Drive clock output.
27	MDT	O	Drive data output.
28	MLEN	O	Drive latch
29	Add		No uses (Vdd)
30	AVref		No used (GND)
31	ERROR	I	Error signal input from TC9245.
32			No used (OPEN)
33	Vss		GND
34	X1		4.19MHz system clock input.
35	X2		4.19MHz system clock input.
36	SDATA	I/O	Serial data signal input / output.
37	SBUSY	I/O	Serial busy signal input / output.
38	MUTE	O	Digital / Analog mute control output.
39	PROM_SDA	O	E2PROM data control.
40	PROM_SCL	O	E2PROM clock control.

No.	Name	I/O	Description
41	DSP_CLK	O	Clock output to CXD2545
42	DSP_XLAT	O	Data latch output to CXD2545
43	DSP_DATA	O	Data output to CXD2545
44	SCOR	I	Sub-code synchro detection signal input from CXD2545
45	SCLK	O	Clock output for SENS signal to CXD2545
46	XRST	O	Reset output to periphery IC.
47	REM_IN	I	Remote control signal input
48	IC		Connects to Vss
49	SER8_16	I	Serial 8 / 16 bit switching detection.
50	SENS	I	SENS signal input from CXD2545
51	T_8_32	O	Field test 1. 8 / 32fs switching
52	Vdd		Power supply
53	T_DR_OFF	O	Field test2. Drive circuit on / off switching
54	KR2	I	Key return 2
55	KR1	O	Key return 1
56	KR0	I	Key return 0
57	LOCK	I	LOCK signal input from CXD2545
58	FOK	I	FOK signal input from CXD 2545
59	S_D	O	FL segment d
60	S_Q	O	FL segment q
61	S_R/KS7	O	FL segment r and key scan 7 combined uses.
62	S_N/KS6	O	FL segment n and key scan 6 combined uses.
63	S_P/KS5	O	FL segment p and key scan 5 combined uses.
64	S_O/KS4	O	FL segment o and key scan 4 combined uses.
65	S_E/KS3	O	FL segment e and key scan 3 combined uses.
66	S_C/KS2	O	FL segment c and key scan 2 combined uses.
67	S_G/KS1	O	FL segment g and key scan 1 combined uses.
68	S_F/KS0	O	FL segment f and key scan0 combined uses.
69	S_B	O	FL segment b
70	S_A	O	FL segment a
71	Vload		Negative voltage supply for FL.
72	S_M	O	FL segment : m
73	S_H	O	FL segment : h
74	S_L	O	FL segment : l
75	S_K	O	FL segment : k
76	S_J	O	FL segment : j
77	S_I	O	FL segment : i
78	DIG_LED1		Digital in 1 / Display off LED display.
79	DIG_LED2		Digital in 2 LED display
80	DIG_LED3		Digital in 3 LED display

CIRCUIT DESCRIPTION

3. KEY MATRIX

5 6 K R 0		5 5 K R 1	5 4 K R 2
6 8 K. SCAN 0	D I G. I N S E L	P E A K S E A R C H	D I S P L A Y R E P E A T (7 0 9 0) (7 0 0 2 / 5 0 0 2)
6 7 K. SCAN 1	S T O P	P L A Y / P A U S E	I N D E X +
6 6 K. SCAN 2	S K I P D O W N	S K I P U P	I N D E X -
6 5 K. SCAN 3	F B	F F	O P E N / C L O S E
6 4 K. SCAN 4	D I O D E 1	D I O D E 2	
6 3 K. SCAN 5			
6 2 K. SCAN 6			

4. DIODE MATRIX (Model distinction)

5 6 K R 0 (D I O D E 1) (D 3 3)		5 5 K R 1 (D I O D E 2) (D 6)
6 4 S O	D P - 7 0 9 0	0
	D P F - 7 0 0 2	0
	D P F - 5 0 0 2	1
0 : n o n d i o d e / 1 : d i o d e		0

5. Test mode

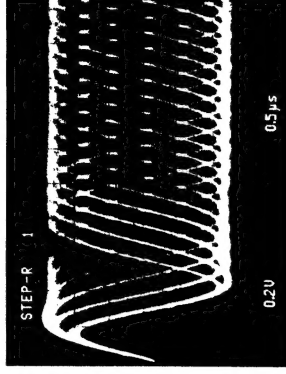
MODE : Adjustment/Inspection (Self adjustment confirmation)			
	INPUT key	DIS-PLAY Action	Note
1	The power supply is turned on while pressing PEAK SEARCH key.	0 1 Test mode	TIME display turn-off
2	PLAY/PAUSE key	0 5 0 3 cyclic action with 05 mode 0 3	03 mode: Focus servo only on condition. 05 mode: Play condition without reading TOC.
3	UP key	All illumination All turn-offs (FL, LED)	When other key are pressed this mode is canceled.
4	DOWN key	Canceling a test mode it become usual play condition.	Only STOP condition is effective TIME display turn-off.
5	FF key	0 1 Feed	Only STOP condition is effective TIME display turn-off.
6	FB key	0 1 Feed	Only STOP condition is effective TIME display turn-off.
7	STOP key	0 7 completion condition 0 8 A display content changes a limit cyclically when STOP key is pressed consecutively. 0 9 07 → 07 FF : FB] 0 9 → 08 FG : TG] 1 0 → 09 FE : RF] 1 0 → 10 TE : VC] (07 → 08 → 09 → 10 → 07 cyclic.)	* "PGM.PGM CHECK" self adjustment is lighted at the time of NG determination and even NG item flickers. * EF.FB.FE excludes from OK/NG determination with hexadecimal number. (EF : EF balance FB : focus bias) (FG : FG balance FB : focus bias) 07 mode → — : — 08 mode → 0D ~ 7E : 09 ~ 7E 09 mode → — : 08 ~ CD 10 mode → 3F ~ C0 : 19 ~ E6
8	O / C	Open/close of a tray	A test mode does not cancel. A clear is done only as a result of self adjustment.

ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG.
1	FOCUS ERROR BALANCE	Test disc Type 4	Connect an oscilloscope as follows. CH1 : RF(CN3 pin1)	Set the unit to test mode. Press the PLAY key, then display is "05".	FE BALANCE VR 1	Optimum eye pattern.	(a)

Note :
Type 4 disc : SONY YEDS-18 TEST Disc or equivalent.
Step 1 is In Test Mode. (Tesc Mode : Turn power on with pressing PEAK SEARCH key.)

FIG. (a)

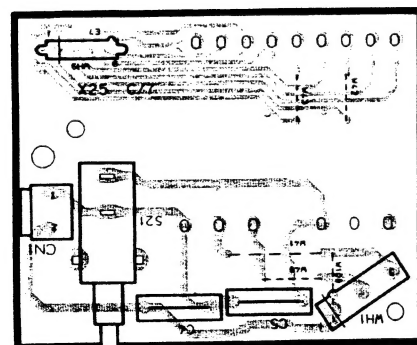
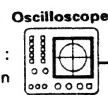


- RF signal in test mode (PLAY).
- Perform the tangential and focusing offset are focused into one point on the display. The crossing points above and below the center shall also be locked clearly. (FE BALANCE)

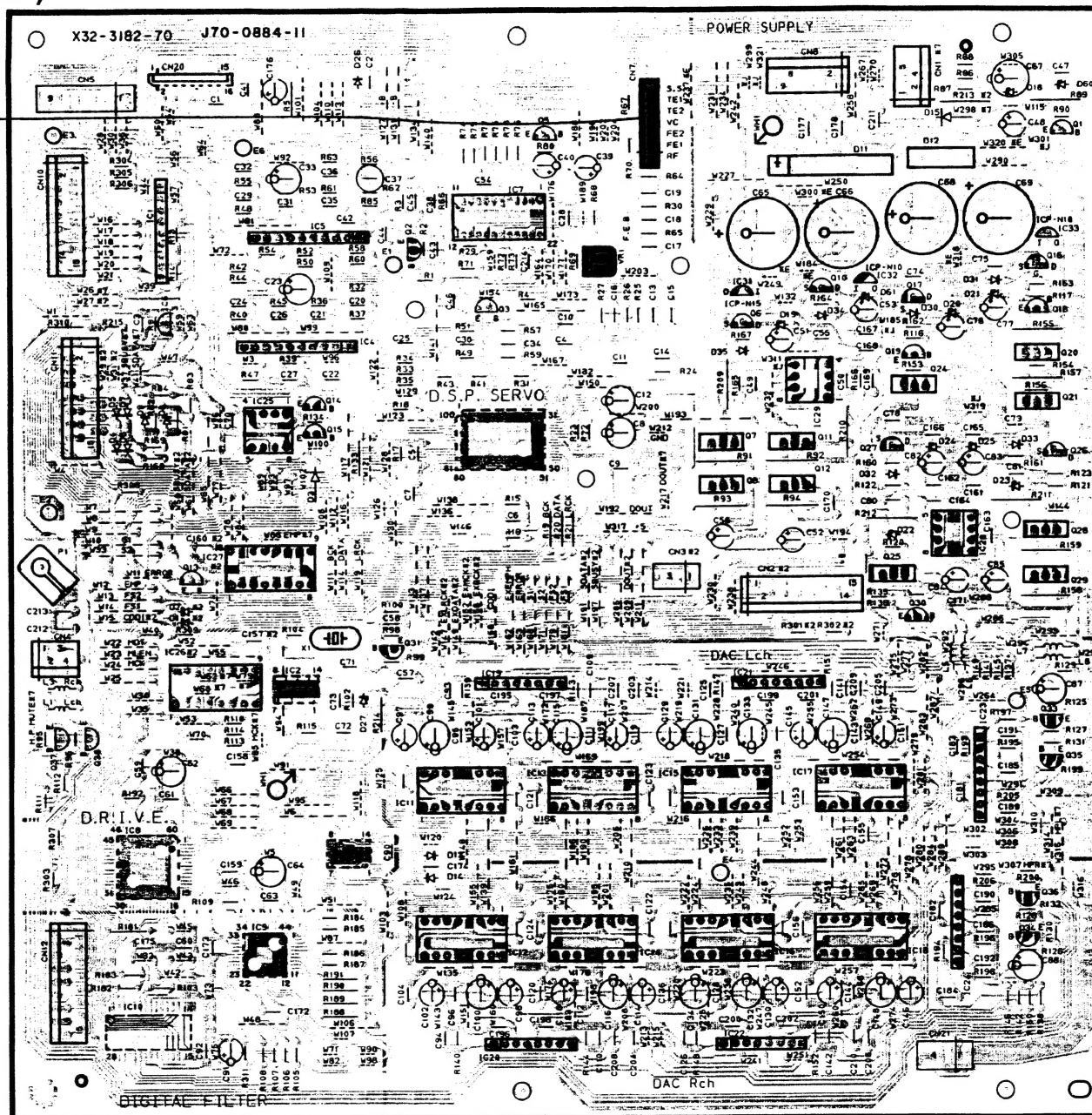
PC BOARD(COMPONENT SIDE VIEW)

CD PLAYER UNIT (X32-3182-70)

(a) Focus error balance :
Optimum eye pattern



POWER



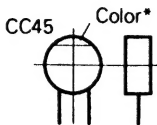
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PARTS DESCRIPTIONS

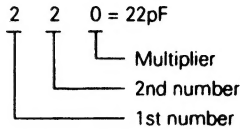
CAPACITORS

CC	45	TH	1H	220	J
1	2	3	4	5	6
1 = Type ... ceramic, electrolytic, etc.			4 = Voltage rating		
2 = Shape ... round, square, ect.			5 = Value		
3 = Temp. coefficient			6 = Tolerance		



Capacitor value

010	= 1pF
100	= 10pF
101	= 100pF
102	= 1000pF = 0.001μF
103	= 0.01μF



Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470 ± 60ppm/°C

Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 -20	+80 -20	+100 -0	More than 10μF - 10 ~ +50 Less than 4.7μF -10 ~ +75

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	-

Chip capacitors

(EX)	C	C	7	3	F	S	L	1	H	0	0	0	J	<div>Refer to the table above.</div> <div>1 = Type</div> <div>2 = Shape</div> <div>3 = Dimension</div> <div>4 = Temp. coefficient</div> <div>5 = Voltage rating</div> <div>6 = Value</div> <div>7 = Tolerance</div>
	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	1	2	3	4	5	6	7							
	(Chip) (CH, RH, UJ, SL)													
(EX)	C	K	7	3	F	F	1	H	0	0	0	Z		
	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
	1	2	3	4	5	6	7							
	(Chip) (B, F)													

Dimension (Chip capacitors)

Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

RESISTORS

Chip resistor (Carbon)

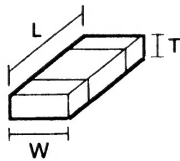
(EX)	R	K	7	3	E	B	2	B	0	0	0	J
	1	2	3	4	5	6	7					
	(Chip) (B, F)											

Carbon resistor (Normal type)

(EX)	R	D	1	4	B	B	2	C	0	0	0	J
	1	2	3	4	5	6	7					

1 = Type	5 = Rating wattage
2 = Shape	6 = Value
3 = Dimension	7 = Tolerance
4 = Temp. coefficient	

Dimension



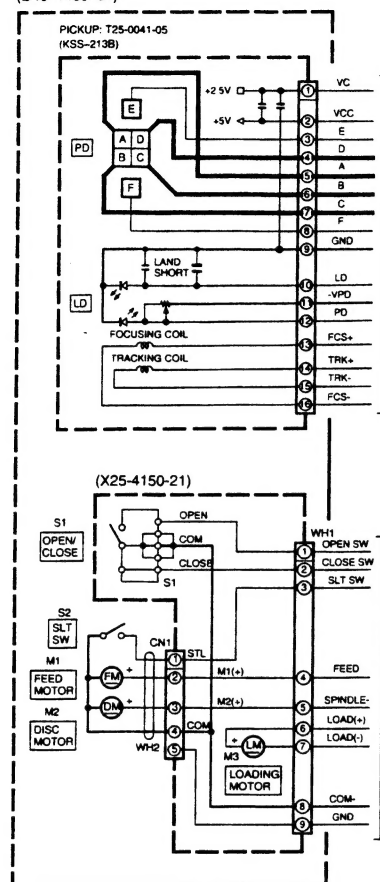
Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6 ± 0.2	0.8 ± 0.2	0.5 ± 0.1

Rating wattage

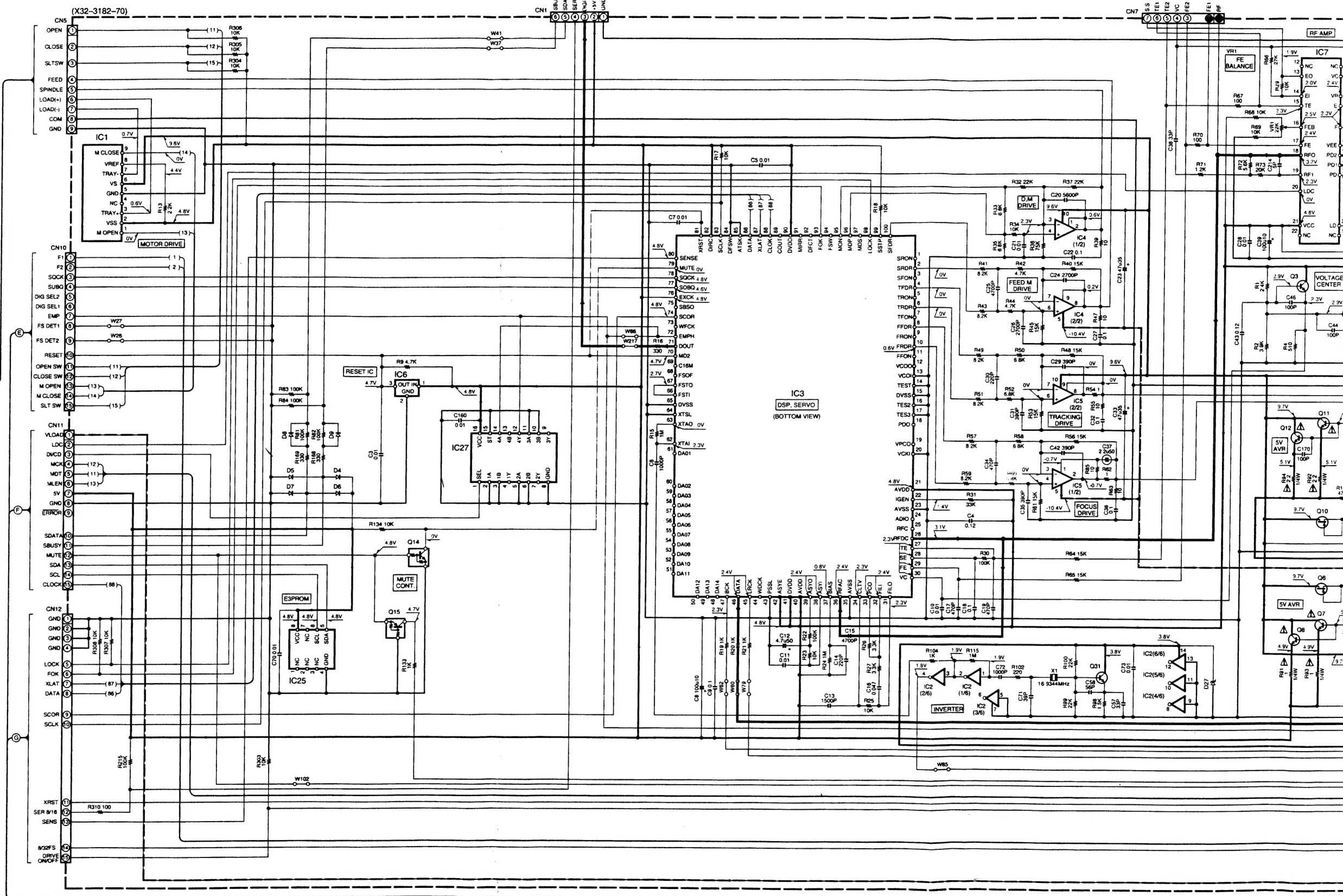
Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

MECHA. ASS'Y [CDM-19 (9) GS]
(D40-1485-01)



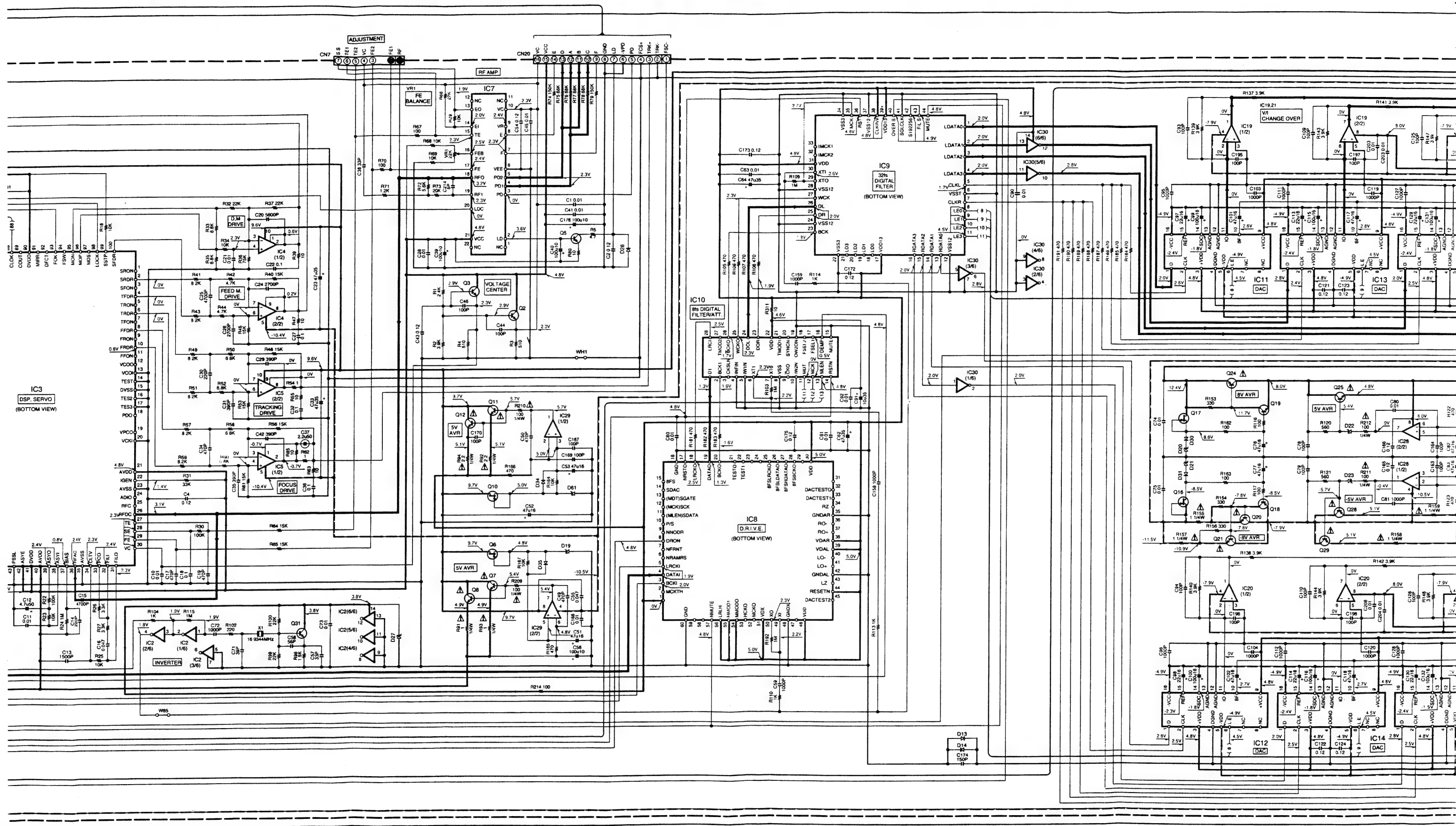
Q1	: 2SA1284	IC1	: TA8409S
Q2,3	: 2SC3940A	IC2,30	: TC74HC04AF
Q5	: 2SA954(L,K)	IC3	: CXD2545Q
Q6,10,16	: 2SK246(Y,GR)	IC4,5	: TA8410AK
Q7,8	: 2SD2396(J,K)	IC6	: PST993D-T
Q11,12,20	: 2SD2396(J,K)	IC7	: CXA1571S
Q14,30	: 2SD2012	IC8	: KAN03
Q15	: DTA124ESA or UN412	IC9	: KAN04
Q18	: 2SA992(F,E)	IC10	: SM5843AS1
Q19	: 2SC1845(F,E)	IC11-18	: PCM1702P
Q24,28,29	: 2SB1375	IC19-24	: NUM4580L
Q31	: 2SC1923(P,O)	IC25	: X24COOP
Q33-36	: 2SC2878(B)	IC27	: TC74HC157AP
Q37,38	: 2SD1450(S,T)	IC28,29	: NUM4558D
		IC31	: ICP-N115
		IC32,33	: ICP-N110
		D4-9,13,14	: ISS133 or HSS104
		D11	: D3SBA20F03 or RBV-402LFA
		D12	: 1B4841
		D15	: S5688B or 1SR139-100
		D18	: UZ-5.68SB or MTZJ5.6(B)
		D19,22-25,61	: UZ-5.18SB or MTZJ5.1(B)
		D20,21	: UZ-8.28SB or MTZJ8.2(B)
		D27	: UZ-3.98SB or MTZJ3.9(B)
		D60	: UZ-308S or MTZJ30(B)

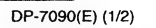
— SIGNAL LINE
— GND LINE
— +B LINE
— -B LINE



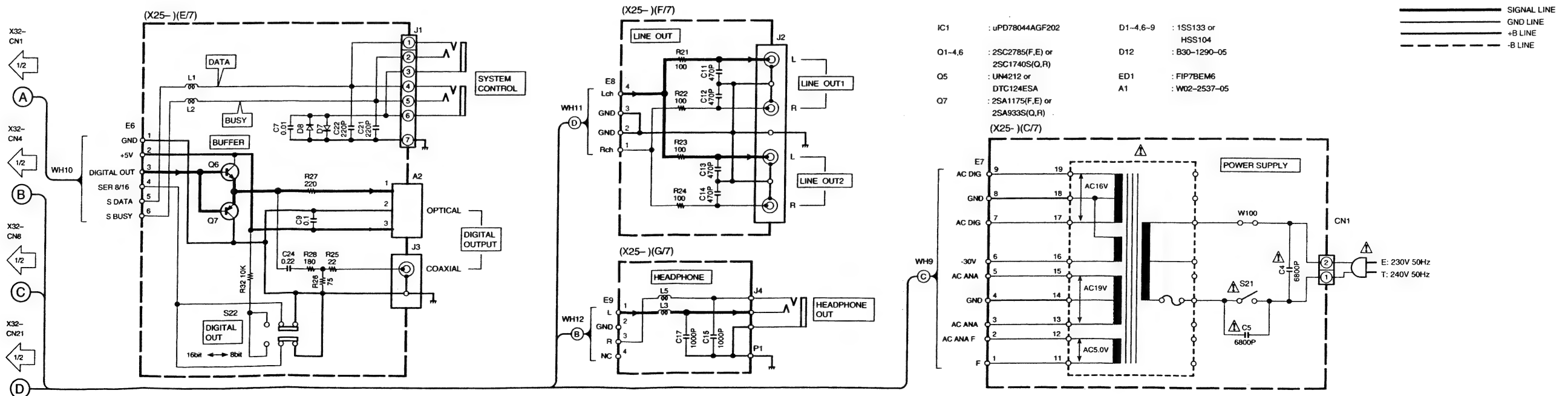
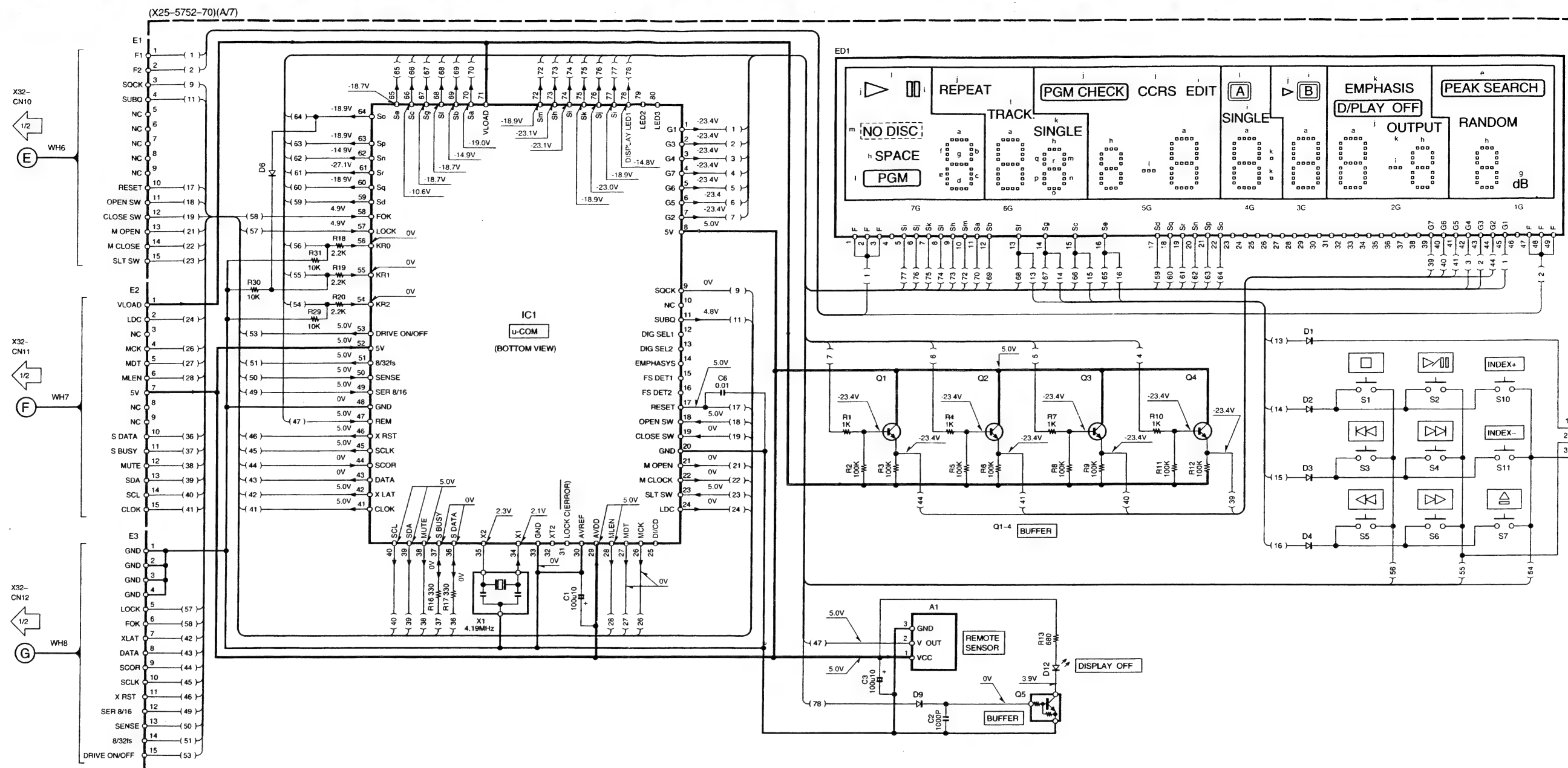
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during PLAY unless otherwise specified; The value shown in () is the voltage measured at the moment of STOP.

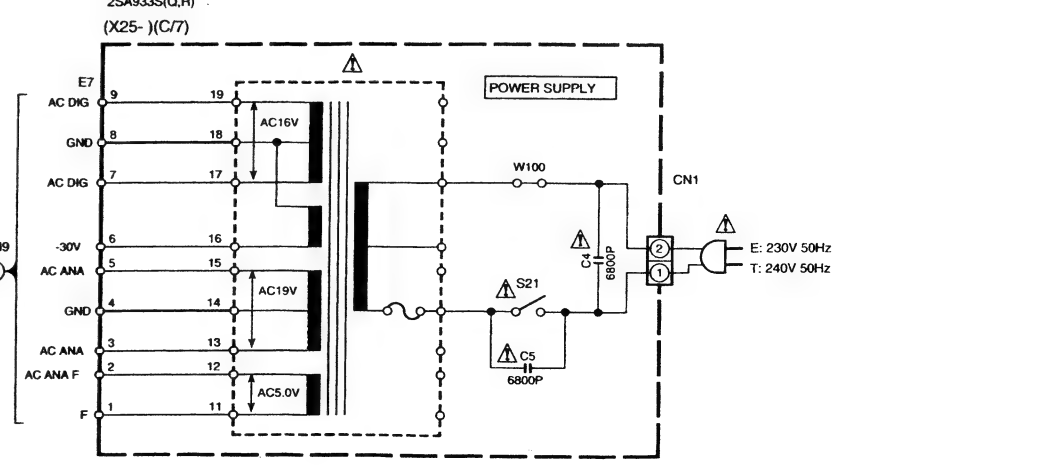


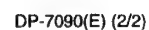
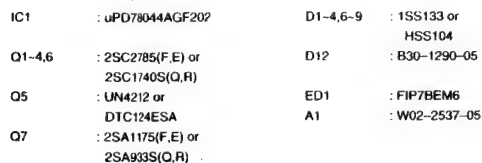


Y22-4602-70



- IC1 : uPD78044AGF202
 Q1-4,6 : 2SC2785(F,E) or 2SC1740S(Q,R)
 Q5 : UN4212 or DTC124ESA
 Q7 : 2SA1175(F,E) or 2SA933S(Q,R)
- D1-4,6-9 : 1SS133 or HSS104
 D12 : B30-1290-05
 ED1 : FIP7BEM6
 A1 : W02-2537-05

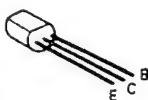




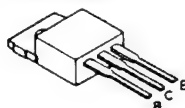
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). Δ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

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2SA1284
2SA954
2SA992
2SC1845
2SC1923
2SC2878
2SC3940A



2SD2396



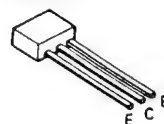
2SA1175
2SC2785



DTA124ESA
DTC124ESA
UN4112
2SC1740S



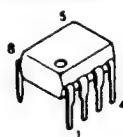
UN4212



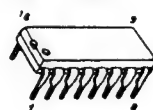
2SB1375
2SD2012



NJM4558D
X24C00P



PCM1702P



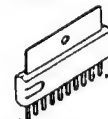
TA8409S



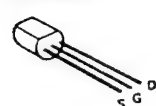
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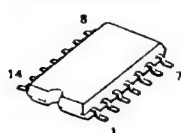
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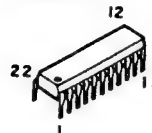
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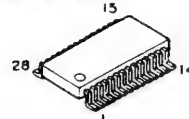
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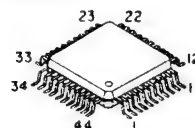
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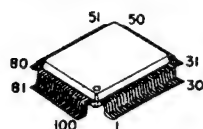
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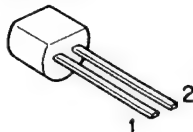
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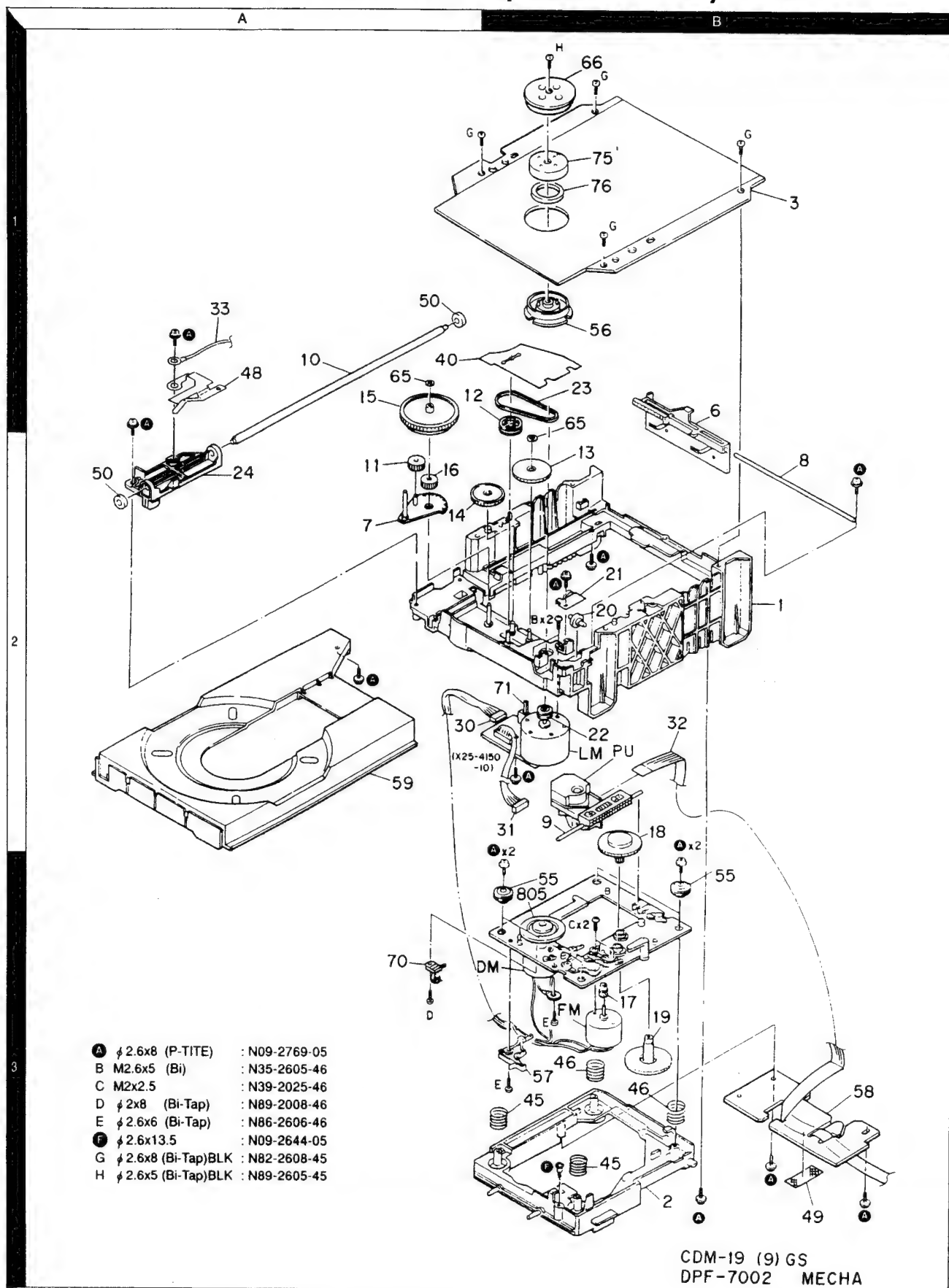
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ICP-N10

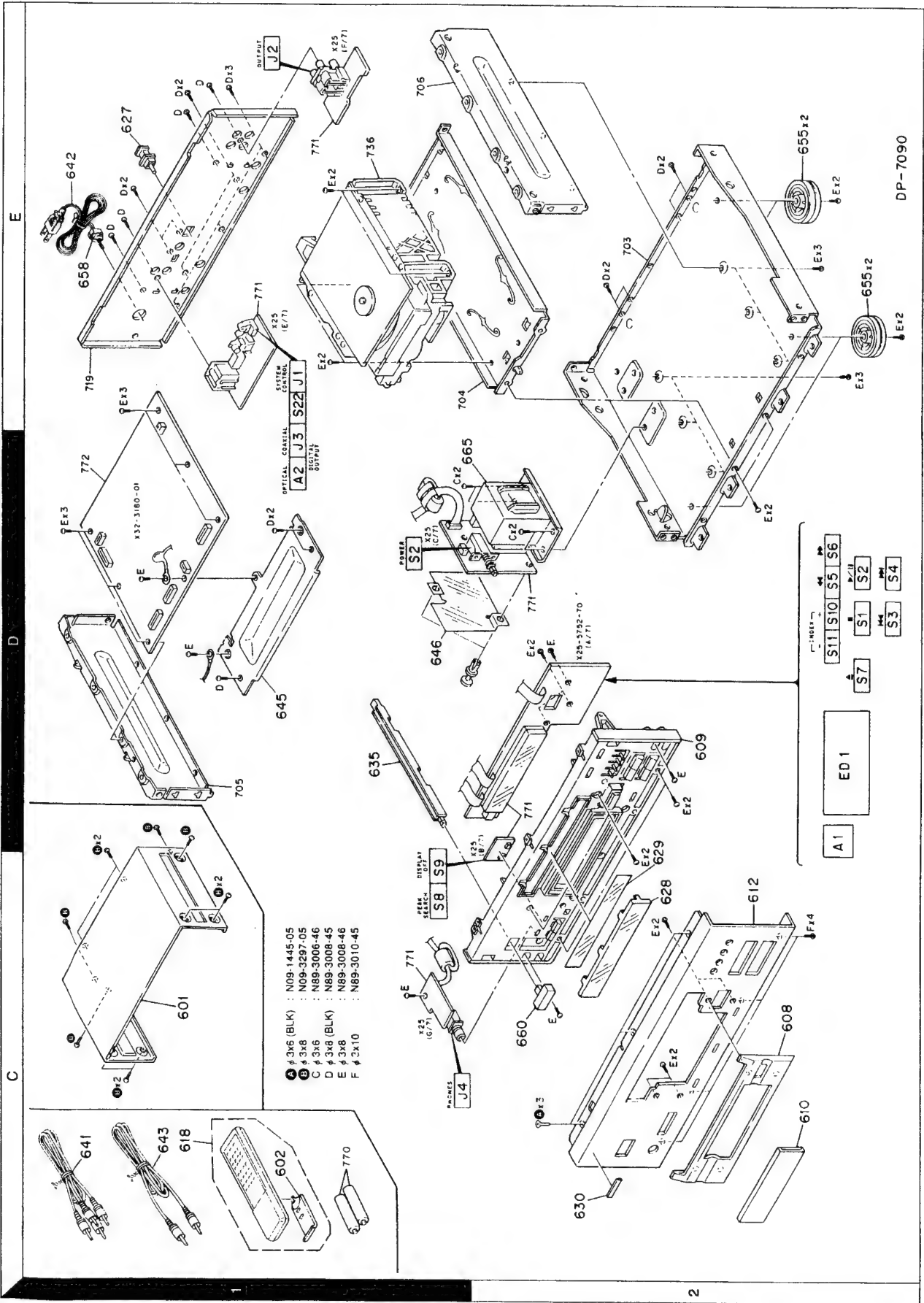


EXPLODED VIEW (MECHANISM)



DP-7090

EXPLODED VIEW (UNIT)



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

1						2					
* New Parts Les articles non mentionnés dans le Parts No. ne sont pas fournis. Teile ohne Parts No. werden nicht geliefert.						* New Parts Les articles non mentionnés dans le Parts No. ne sont pas fournis. Teile ohne Parts No. werden nicht geliefert.					
Ref. No	Add- ress	Parts No.	Description	Depth- nation	Re- marks	Ref. No	Add- ress	Parts No.	Description	Depth- nation	Re- marks
DP-7090						CD PLAYER UNIT (X32-3182-70)					
601	1C	A01-3325-01	METALLIC CABINET			C1		CE04KW1A101M	ELECTRO	100UF	
602	1C	A09-0170-08	BATTERY COVER			C2		CE03FMG1H102J	MYLAR	1000PF	10WV
608	2C	A21-1906-03	DRESSING PANEL			C3		CE04KW1A101M	ELECTRO	100UF	10WV
609	2D	A21-1911-03	DRESSING PANEL ASSY			C4		C91-1488-05	MF	6800PF	250VAC
610	2C	A22-1723-21	SUB PANEL			C5		CE03FMG1H103J	MYLAR	0.010UF	J
618	1C	A29-0823-14	PANEL ASSY			C6		CK45FF1H103Z	CERAMIC	0.010UF	Z
627	1E	A60-0923-02	REMOTE CONTROLLER ASSY			C7		CE03FMG1H104J	MYLAR	0.10UF	J
628	2C	B07-2305-04	ESCUTCHEON			C8		CE03FMG1H104J	MYLAR	470PF	J
629	2C	B09-0097-05	OPTICAL OUTPUT TERMINAL CAP			C11-14		CK45FB1H102K	CERAMIC	1000PF	K
630	2C	B10-2243-13	FRONT GLASS			C15		CK45FB1H102K	CERAMIC	1000PF	K
635	1D	B11-0322-03	COLOR FILTER			C17		CC45FSL1H221J	CERAMIC	220PF	J
641	1C	B43-0302-04	KENWOOD BADGE			C24		CF92FV1H224J	MF-C	0.22UF	J
642	1E	B46-0310-03	WARRANTY CARD			CN1		E40-4245-05	PIN ASSY		
643	1C	B58-0985-13	CAUTION CARD (PL SENTENCE)			J1		E11-0188-05	MINIATURE PHONE JACK (2P LENGTH)		
645	1D	B58-0986-13	CAUTION CARD (PL SENTENCE)			J2		E63-0121-05	PHONO JACK		
646	1D	B60-2752-00	INSTRUCTION MANUAL(ENGLISH)			J3		E63-0185-05	PHONO JACK		
655	2E	B60-2753-00	INSTRUCTION MANUAL(F.G.D.I)			J4		E11-0190-05	PHONE JACK (3P)		
658	1E	D21-1447-03	EXTENSION SHAFT			685		J19-3672-03	HOLDER		
660	1C	E28-1618-04	LEAD PLATE			L1-3		L92-0064-05	FERRITE CORE		
665	1D	E30-0505-05	AUDIO CORD			L5		L92-0067-05	FERRITE CORE		
666	1D	E30-2592-15	AC POWER CORD			L6		L92-0017-05	FERRITE CORE		
667	1C	E30-2733-05	CORD WITH PLUG			L7		L92-0017-05	FERRITE CORE		
668	1D	F19-1085-03	BLIND PLATE			L8		L78-0267-05	RESONATOR (4.194MHZ)		
669	1D	F20-1483-04	INSULATING BOARD			S1-11		S70-0031-05	TACT SWITCH		
670	1D	G10-0146-04	NON-WOVEN FABRIC			S21		S40-1153-05	PUSH SWITCH		
671	1D	G11-0155-14	SOFT TAPE (40X9X2)			S22		S31-2094-05	SLIDE SWITCH		
672	1D	G11-2269-04	CUSHION			D1-4		HSS104	DIODE		
673	1D	G11-2272-04	SOFT TAPE			D1-4		HSS104	DIODE		
674	1D	H10-7197-02	POLYSTYRENE FOAMED FIXTURE			D6-9		HSS104	DIODE		
675	1D	H12-2288-04	PACKING FIXTURE			D6-9		FIP7BEM6	INDICATOR TUBE		
676	1D	H25-0232-04	PROTECTION BAG (235X350X0.03)			ED1		UPD78044AGF20	2 MI-COM IC		
677	1D	H25-0319-04	PROTECTION BAG			IC1		2SC1740S(Q,R)	TRANSISTOR		
678	1D	H25-0651-04	PROTECTION BAG			Q1-4		2SC2785(F,E)	DIGITAL TRANSISTOR		
679	1D	H25-0657-04	PROTECTION BAG			Q1-4		DTIC124ESA	DIGITAL TRANSISTOR		
680	1D	H50-2003-04	ITEM CARTON CASE			Q5		UN4212	DIGITAL TRANSISTOR		
681	1D	H50-2005-04	ITEM CARTON CASE			Q6		2SC1740S(Q,R)	TRANSISTOR		
682	1D	J02-1169-03	FOOT			Q6		2SC2785(F,E)	TRANSISTOR		
683	1E	J42-0083-05	POWER CORD BUSHING			Q7		2SA1175(F,E)	TRANSISTOR		
684	1E	J61-0307-05	WIRE BAND			Q7		2SA933AS(Q,R)	TRANSISTOR		
685	1C	K27-2178-04	KNOB (BUTTON)			A1		W02-2537-05	ELECTRIC CIRCUIT MODULE		
686	1D	L07-2171-05	POWER TRANSFORMER			A2		W02-1114-05	OSCILLATING MODULE		
DISPLAY UNIT (X25-5752-70)						CD PLAYER UNIT (X32-3182-70)					
D12		B30-1290-05	LED			C1		CE03FMG1H103J	MYLAR	0.010UF	J
						C2		CF92FV1H124J	MF-C	0.12UF	J
						C3		CE03FMG1H103J	MYLAR	0.010UF	J
						C4		CF92FV1H124J	MF-C	0.12UF	J
						C5		CE03FMG1H103J	MYLAR	0.010UF	J
						C6		CE03FMG1H102J	MYLAR	1000PF	J
						C7		CE03FMG1H103J	MYLAR	0.010UF	J
						C8		CE04KW1A101M	ELECTRO	100UF	10WV
DP-7090						CD PLAYER UNIT (X32-3182-70)					
L: Scandinavia K: USA P: Canada R: Mexico						L: Scandinavia K: USA P: Canada R: Mexico					
Y: PX(Far East, Hawaii) T: Europe G: Germany						Y: PX(Far East, Hawaii) T: Europe G: Germany					
Y: AAFES(Europe) X: Australia M: Other Areas						Y: AAFES(Europe) X: Australia M: Other Areas					
Δ indicates safety critical components.						Δ indicates safety critical components.					

PARTS LIST

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Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks	Ref. No	Add- ress	New Parts	Parts No.	Description	Desti- nation	Re- marks
C72			CQ93FMG1H102J	MYLAR	J	1000PF	C72			CQ93FMG1H102J	MYLAR	J	1000PF
C73-75			CQ93FMG1H103J	MYLAR	J	0.010UF	C73-75			CQ93FMG1H103J	MYLAR	J	0.010UF
C76-77			CE04KW1C470M	ELECTRO	16WV	47UF	C76-77			CE04KW1C470M	ELECTRO	16WV	47UF
C78-79			CQ93FSL1H101J	CERAMIC	J	100PF	C78-79			CQ93FSL1H101J	CERAMIC	J	100PF
C80			CK45FSL1H103Z	CERAMIC	Z	0.010UF	C80			CK45FSL1H103Z	CERAMIC	Z	0.010UF
C81			CK45FBIH102K	CERAMIC	K	1000PF	C81			CK45FBIH102K	CERAMIC	K	1000PF
C82-85			CE04KW1C470M	ELECTRO	16WV	47UF	C82-85			CE04KW1C470M	ELECTRO	16WV	47UF
C87-88			C90-1814-05	ELECTRO	25WV	22UF	C87-88			C90-1814-05	ELECTRO	25WV	22UF
C90			CQ93FMG1H103J	MYLAR	J	0.010UF	C90			CQ93FMG1H103J	MYLAR	J	0.010UF
C91			CE04KW1V100M	ELECTRO	35WV	10UF	C91			CE04KW1V100M	ELECTRO	35WV	10UF
C92			CQ93FMG1H103J	MYLAR	J	0.010UF	C92			CQ93FMG1H103J	MYLAR	J	0.010UF
C93-94			CF92FV1H101K	MF-C	K	100PF	C93-94			CF92FV1H101K	MF-C	K	100PF
C95-96			CK45FBIH102K	CERAMIC	K	1000PF	C95-96			CK45FBIH102K	CERAMIC	K	1000PF
C97-98			CE04KW1C220M	ELECTRO	16WV	22UF	C97-98			CE04KW1C220M	ELECTRO	16WV	22UF
C99-100			CE04KW1C101M	ELECTRO	16WV	100UF	C99-100			CE04KW1C101M	ELECTRO	16WV	100UF
C101-102			CE04KW1C470M	ELECTRO	16WV	47UF	C101-102			CE04KW1C470M	ELECTRO	16WV	47UF
C103-104			CK45FBIH102K	CERAMIC	K	1000PF	C103-104			CK45FBIH102K	CERAMIC	K	1000PF
C109-110			CF92FV1H101K	MF-C	K	100PF	C109-110			CF92FV1H101K	MF-C	K	100PF
C111-112			CK45FBIH102K	CERAMIC	K	1000PF	C111-112			CK45FBIH102K	CERAMIC	K	1000PF
C113-114			CE04KW1C220M	ELECTRO	16WV	22UF	C113-114			CE04KW1C220M	ELECTRO	16WV	22UF
C115-116			CE04KW1C101M	ELECTRO	16WV	100UF	C115-116			CE04KW1C101M	ELECTRO	16WV	100UF
C117-118			CE04KW1C470M	ELECTRO	16WV	47UF	C117-118			CE04KW1C470M	ELECTRO	16WV	47UF
C119-120			CK45FBIH102K	CERAMIC	K	1000PF	C119-120			CK45FBIH102K	CERAMIC	K	1000PF
C121-124			CF92FV1H124J	MF-C	K	100PF	C121-124			CF92FV1H124J	MF-C	K	100PF
C125-126			CF92FV1H101K	MF-C	K	100PF	C125-126			CF92FV1H101K	MF-C	K	100PF
C127-128			CK45FBIH102K	CERAMIC	K	1000PF	C127-128			CK45FBIH102K	CERAMIC	K	1000PF
C129-130			CE04KW1C220M	ELECTRO	16WV	22UF	C129-130			CE04KW1C220M	ELECTRO	16WV	22UF
C131-132			CE04KW1C101M	ELECTRO	16WV	100UF	C131-132			CE04KW1C101M	ELECTRO	16WV	100UF
C133-134			CE04KW1C470M	ELECTRO	16WV	47UF	C133-134			CE04KW1C470M	ELECTRO	16WV	47UF
C135-136			CK45FBIH102K	CERAMIC	K	1000PF	C135-136			CK45FBIH102K	CERAMIC	K	1000PF
C141-142			CF92FV1H101K	MF-C	K	100PF	C141-142			CF92FV1H101K	MF-C	K	100PF
C143-144			CF92FV1H124J	MF-C	J	0.12UF	C143-144			CF92FV1H124J	MF-C	J	0.12UF
C145-146			CE04KW1C220M	ELECTRO	16WV	22UF	C145-146			CE04KW1C220M	ELECTRO	16WV	22UF
C147-148			CE04KW1C101M	ELECTRO	16WV	100UF	C147-148			CE04KW1C101M	ELECTRO	16WV	100UF
C149-150			CE04KW1C470M	ELECTRO	16WV	47UF	C149-150			CE04KW1C470M	ELECTRO	16WV	47UF
C151-156			CF92FV1H124J	MF-C	J	0.12UF	C151-156			CF92FV1H124J	MF-C	J	0.12UF
C158-159			CQ93FMG1H102J	MYLAR	J	1000PF	C158-159			CQ93FMG1H102J	MYLAR	J	1000PF
C161-164			CC45FSL1H101J	CERAMIC	J	100PF	C161-164			CC45FSL1H101J	CERAMIC	J	100PF
C165-166			CF92FV1H124J	MF-C	J	0.12UF	C165-166			CF92FV1H124J	MF-C	J	0.12UF
C167			CC45FSL1H101J	CERAMIC	J	100PF	C167			CC45FSL1H101J	CERAMIC	J	100PF
C168			CK45FF1H103Z	CERAMIC	Z	0.010UF	C168			CK45FF1H103Z	CERAMIC	Z	0.010UF
C169-170			CC45FSL1H101J	CERAMIC	J	100PF	C169-170			CC45FSL1H101J	CERAMIC	J	100PF
C171-173			CF92FV1H124J	MF-C	J	0.12UF	C171-173			CF92FV1H124J	MF-C	J	0.12UF
C174			C91-1478-05	FILM	J	150PF	C174			C91-1478-05	FILM	J	150PF
C175			CF92FV1H124J	MF-C	J	0.12UF	C175			CF92FV1H124J	MF-C	J	0.12UF
C176			CE04KW1A101M	ELECTRO	10WV	100UF	C176			CE04KW1A101M	ELECTRO	10WV	100UF
C177-178			CQ93FMG1H103J	MYLAR	J	0.010UF	C177-178			CQ93FMG1H103J	MYLAR	J	0.010UF
C181-182			CQ93FMG1H103J	MYLAR	J	0.010UF	C181-182			CQ93FMG1H103J	MYLAR	J	0.010UF
C183-186			C91-1474-05	FILM	J	100PF	C183-186			C91-1474-05	FILM	J	100PF
C189-190			CQ93FMG1H681J	MYLAR	J	880PF	C189-190			CQ93FMG1H681J	MYLAR	J	880PF
C191-192			C91-1474-05	FILM	J	100PF	C191-192			C91-1474-05	FILM	J	100PF
C195-202			CC45FSL1H101J	CERAMIC	J	100PF	C195-202			CC45FSL1H101J	CERAMIC	J	100PF
C203-211			CK45FF1H103Z	CERAMIC	Z	0.010UF	C203-211			CK45FF1H103Z	CERAMIC	Z	0.010UF
C212-213			CK45FBIH102K	CERAMIC	K	1000PF	C212-213			CK45FBIH102K	CERAMIC	K	1000PF
C214			CC45FSL1H050C	CERAMIC	C	5.0PF	C214			CC45FSL1H050C	CERAMIC	C	5.0PF
L : Scandinavia							K : USA						
Y : PX(Far East, Hawaii)							T : Europe						
Y : AAFES(Europe)							X : Australia						
							P : Canada						
							E : Europe						
							M : Other Areas						
							R : Mexico						
							G : Germany						
							Δ indicates safety critical components.						

PARTS LIST

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5

Ref. No	Add- ress	New Part	Parts No.	Description	Desti- nation	Re- marks
IC7			CXA1571S	ANALOGUE IC		
IC8			KAN03	CUSTOM IC		
IC9			SM5843AS1	CUSTOM IC		
IC10			PCM1702P	MOS-IC		
IC11-18						
IC19-24			NJM4580L	IC(OP AMP X2)		
IC25			X24C00P	MEMORY IC		
IC28-29			NJM4558D	ANALOGUE IC		
IC30			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC31		*	ICP-N20	ANALOGUE IC		
IC32-33						
O1		*	ICP-N10	ANALOGUE IC		
O2			2SA1284	TRANSISTOR		
O3			2SC3940A	TRANSISTOR		
O5			2SA954(L,K)	TRANSISTOR		
O6			2SK246(Y,GR)	FET		
O7-8						
O10			2SD2396(J,K)	TRANSISTOR		
O11			2SK246(Y,GR)	FET		
O11-12			2SD2396(L,K)	TRANSISTOR		
O14			DTA124ESA	DIGITAL TRANSISTOR		
O15			UN4112	DIGITAL TRANSISTOR		
O16			2SK246(Y,GR)	FET		
O18			2SA992(F,E)	TRANSISTOR		
O19			2SC1845(F,E)	TRANSISTOR		
O20-21						
O24			2SD2012	TRANSISTOR		
O25			2SD2012	TRANSISTOR		
O26-27						
O28-29			2SK246(Y,GR)	FET		
O30			2SB1375	TRANSISTOR		
O30						
O31			DTA124ESA	DIGITAL TRANSISTOR		
O33-36			UN4212	DIGITAL TRANSISTOR		
O37-38			2SC1923(R,O)	TRANSISTOR		
			2SC2878(B)	TRANSISTOR		
			2SD1450(S,T)	TRANSISTOR		

CD MECHANISM ASSY (D40-1485-11)

1	2B	A10-2798-32	CHASSIS ASSY		
2	3B	A11-0695-25	SUB CHASSIS (FRAME)		
3	1B	A11-0723-03	SUB CHASSIS (CLAMP)		
6	1B	D10-2479-03	SLIDER		
7	2A	D10-2481-04	ARM ASSY		
10	1A	D10-2491-04	ROD (RETAINER)		
11	2A	D13-0744-04	GEAR		
12	1A	D13-0779-04	GEAR (PULLEY)		
13	2B	D13-0780-04	GEAR (INTERMEDIATE)		
14	2A	D13-0890-04	GEAR (IDLER)		
15	1A	D13-0891-03	GEAR (MAIN)		
16	2B	D13-0892-04	GEAR		
17	3B	D13-0894-04	GEAR (FEED MOTOR)		
18	2B	D13-0895-05	GEAR (INTERMEDIATE)		
19	3B	D13-0896-05	GEAR (FEED)		
20	2B	D14-0324-04	ROLLER		
21	2B	D14-0325-04	ROLLER ASSY		
22	2B	D15-0295-04	MOTOR PULLEY (LOADING MOTOR)		

L : Scandinavia
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Y : AAFES(Europe)

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5

Ref. No	Add- ress	New Part	Parts No.	Description	Desti- nation	Re- marks
CN1			E40-4296-05	FLAT CABLE CONNECTOR		
CN4			E40-4294-05	FLAT CABLE CONNECTOR		
CN5			E40-3253-05	PIN ASSY		
CN7			E40-4876-05	PIN ASSY		
CN8			E40-4807-05	PIN ASSY		
CN10-12						
CN20			E40-4609-05	PIN ASSY		
CN21			E40-4856-05	FLAT CABLE CONNECTOR		
E1-3			E40-3248-05	PIN ASSY		
L1			J11-0098-05	WIRE CLAMPER		
L3						
L5-8			L92-0017-05	FERRITE CORE		
X1			L92-0017-05	FERRITE CORE		
			L40-2291-17	SMALL FIXED INDUCTOR		
			L77-2133-05	CRYSTAL RESONATOR(16.9344MHZ-1		
R89			RD14NB2E4R7J	RD 4.7 J 1/4W		
R91-94			RD14NB2E1R0J	RD 1.0 J 1/4W		
R137-152			RD14BKC3801F	RD 3.90K F 1/4W		
R155			RD14NB2E1R0J	RD 1.0 J 1/4W		
R157-159			RD14NB2E1R0J	RD 1.0 J 1/4W		
R209-212			RD14NB2E101J	RD 100 J 1/4W		
R311			RD14NB2E100J	RD 10 J 1/4W		
VR1			R12-3686-05	TRIMMING POT.(22K)		
D4-9			HSS104	DIODE		
D4-9			1SS133	DIODE		
D11			D3SBA20F03	DIODE		
D11			RBV-402LFA	DIODE		
D12			1B4B41	DIODE		
D13-14			HSS104	DIODE		
D13-14			1SS133	DIODE		
D15			S5688B	DIODE		
D15			1SR139-400	DIODE		
D18			MTZJ5.6(B)	ZENER DIODE		
D18			UZ-5.6BSB	ZENER DIODE		
D19			MTZJ5.1(B)	ZENER DIODE		
D19			UZ-5.1BSB	ZENER DIODE		
D20-21			MTZJ8.2(B)	ZENER DIODE		
D20-21			UZ-8.2BSB	ZENER DIODE		
D22-25			MTZJ5.1(B)	ZENER DIODE		
D22-25			UZ-5.1BSB	ZENER DIODE		
D26			HSS104	DIODE		
D26			1SS133	DIODE		
D27			MTZJ3.9(B)	ZENER DIODE		
D27			UZ-3.9BSB	ZENER DIODE		
D30-35			HSS104	DIODE		
D30-35			1SS133	DIODE		
D60			MTZJ30(B)	ZENER DIODE		
D60			UZ-30BS	ZENER DIODE		
D61			MTZJ5.1(B)	ZENER DIODE		
D61			UZ-5.1BSB	ZENER DIODE		
IC1			TAB409S	MOS-IC		
IC2			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC3			CXD2545Q	MOS-IC		
IC4-5			TAB410AK	ANALOGUE IC		
IC6			PST993D-T	ANALOGUE IC		

L : Scandinavia
Y : PX(Far East, Hawaii)
Y : AAFES(Europe)

K : USA
P : Canada
E : Europe
X : Australia
M : Other Areas

R : Mexico
G : Germany

Δ indicates safety critical components.

DP-7090

PARTS LIST

7

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnés dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No	Add- ress	New Part	Parts No.	Description	Desti- nation	Re- marks
23	1B		D16-0309-03	BELT		
24	2A		D23-0267-03	RETAINER		
30	2A		E31-7868-25	WIRING HARNESS		
31	2B	*	E35-1542-05	WIRING HARNESS		
32	2B	*	E38-1543-05	FLAT CABLE		
33	1B	*	E35-1583-13	WIRING HARNESS		
34		*	E40-3263-05	PIN ASSY		
40	1A		F19-1027-04	BLIND PLATE		
45	3B		G01-3326-14	COMPRESSION SPRING (FRONT)		
46	3B		G01-3327-14	COMPRESSION SPRING (REAR)		
48	1A		G02-1020-04	FLAT SPRING		
49	3B		G10-0146-04	NON-WOVEN FABRIC		
50	1A, 2A		G11-2038-04	CUSHION		
55	3B		J02-1058-15	INSULATOR		
56	1B		J11-0173-33	CLAMPER		
57	3B		J19-3335-05	BRACKET		
58	3B		J19-5708-14	BRACKET		
59	2A	*	J99-0088-23	TRAY ASSY		
65	1B		N19-0366-04	FLAT WASHER		
66	1B		N19-1292-04	FLAT WASHER		
70	3A		S33-1022-05	LEVER SWITCH		
DM	3B		A11-0733-05	SUB CHASSIS ASSY (DISC MOTOR)		
FM	3B		T42-0532-05	DC MOTOR (FEED MOTOR)		
LM	2B		T42-0530-05	DC MOTOR (LOADING MOTOR)		
PU	2B		T25-0041-05	OPTICAL PICKUP HEAD (KSS-213B)		

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SPECIFICATIONS

[Format]

System Compact disc digital audio system
 Laser Semiconductor laser

[D/A Convertors]

D/A Conversion 20 Bit
 Oversampling 32 fs (1411.2 kHz)

[Audio]

Frequency response 4Hz ~ 20 kHz, ± 0.3 dB
 Signal to noise ratio More than 120 dB
 Dynamic range More than 99 dB
 Total harmonic distortion + noise
 Less than 0.002 % (at 1 kHz)
 Channel separation More than 100 dB (at 1 kHz)

Wow & flutter Unmeasurable Limit
 Output level / impedance
 Variable 0 ~ 2 V / 0.3 k Ω
 Digital output
 Coaxial 0.5 V p-p / 75 Ω
 Optical -15 dBm ~ -21 dBm
 (Wave length 660 nm)
 Headphone output (Max.) 20 mW (32 Ω)

[General]

Power consumption 20 W
 Dimensions W: 440 mm (17-5/16")
 H: 147 mm (5-13/16")
 D: 366 mm (14-7/16")
 Weight (Net) 7.6 kg (16.7 lb)

Note :

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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KENWOOD CORPORATION

14-6, Dogenzaka 1-chome, Shibuya-ku, Tokyo, 150 Japan

KENWOOD SERVICE CORPORATION

P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745, U.S.A.